

106th Annual Meeting The Ohio Academy of Science

Hosted by

Bowling Green State University
Bowling Green, Ohio
April 4-5-6, 1997

WELCOME . . . !

Bowling Green State University welcomes you to the 106th Annual Meeting of The Ohio Academy of Science. We invite you to explore our campus and to share in the excitement and opportunities provided in this program.

REGISTRATION

Registration is required for all meeting presenters and attendees. On-site registration will be available at a higher rate. **To assure reservations for meals, forms must be received by The Ohio Academy of Science by March 21, 1997.**

Please use Registration Form on last page. Please send the completed forms and fees **by March 21, 1997 to:**

OAS Annual Meeting Registration
PO Box 12519
Columbus OH 43212-0519
FAX 614/488-2228

Registration by credit card or purchase order only will be accepted by FAX at 614/488-2228 (M-F 9:00 AM-5:00 PM). Your packet, tickets, receipt, and name tag will be ready at the meeting registration desk upon your arrival. For further information, please call 614/488-2228.

Friday April 4 and Saturday April 5

Registration will be held in Olscamp Hall from 1:30 PM-6:00 PM on Friday and 8:00 AM - 3:00 PM on Saturday. On-site registration is possible by check, VISA, or Mastercard. Cash is discouraged.

PARKING

There will be no charge except at meters.

Friday: Visitors should park in Lot 20 at the Visitors Information Center located next to the Stadium. A shuttle bus operates from 7 a.m. to 3 a.m. and stops at the University Union and Olscamp Hall. A shuttle map is available at the Visitors Center indicating the routes and various hours of operation. Please let the driver know that you are a visitor and what building you need to find.

Saturday: Visitors may park in any lot without a parking permit except the Admissions parking lot. Metered spaces require the proper coins in the meter to avoid a ticket.

SMOKING POLICY

Smoking is not permitted in any building on campus.

MEALS

Friday, April 4. **Preregistration required by March 21** for the Joint Ohio Academy of Science-Ohio Biological Survey Dinner in Olscamp Hall.

Saturday, April 5. For lunch, a list of restaurants on and near campus, and campus and area maps will be available at registration. **Preregistration required by March 21** for Academy Annual Meeting Banquet at 6:30 PM in Olscamp Hall

HOUSING

Please contact hotels and motels directly.

Bowling Green

Best Western Falcon Plaza (800) 528-1234
1450 E. Wooster St., Bowling Green OH 43402

Days Inn (800) DAYSINN
1550 E. Wooster St., Bowling Green OH 43402

Quality Inns & Suites (Holley Lodge) (419) 352-2521
1630 E. Wooster St., Bowling Green OH 43402

University Union Hotel (419) 372-2741
Bowling Green State University, Bowling Green OH 43403

Perrysburg

Days Inn Perrysburg (800) DAYSINN
10607 Fremont Pike, Perrysburg OH 43551

Holiday Inn French Quarter (800) HOLIDAY
10630 Fremont Pike, Perrysburg OH 43551

Holiday Inn I-75 (800) HOLIDAY
10621 Fremont Pike, Perrysburg OH 43551

Maumee

Comfort Inn West (800) 228-5150
1426 S. Reynolds, Maumee OH 43537-1626

Days Inn Maumee (800) 431-2574
150 Dussel, Maumee OH 43537-2208

Hampton Inn Maumee (800) 426-7866
1409 S. Reynolds, Maumee OH 43537-1625
Holiday Inn West (800) 525-6474
2340 S. Reynolds, Toledo OH 43614-1468

Ramada Hotel & Conf. Ctr. (800) 323-6708
2429 S. Reynolds, Toledo OH 43614-1433

Red Roof Inn Maumee (800) 843-7663
1570 S. Reynolds, Maumee OH 43537-1602

Tharaldson Inn & Suites (800) 554-4641
521 W. Dussel, Maumee OH 43537

Toledo Country Inn & Suites (800) 456-4000
541 W. Dussel, Maumee OH 43537

Toledo/Holland (Airport Hwy. & I-475)

Courtyard by Marriott (800) 321-2211
1435 E. Mall Dr., Holland OH 43528-9490

Fairfield Inn (800) 228-2800
1401 E. Mall Dr., Holland OH 43528-9490

Knights Inn West (800) 843-5844
1520 S. Holland-Sylvania, Holland OH 43528-1311
Red Roof Inn Holland (800) 843-7663
1214 Corporate Dr., Holland OH 43528-8459

Residence Inn (800) 331-3131
6101 Trust Dr., Holland OH 43528-9588

Rossford

EconoLodge (800) 242-6446
1800 Miami St., Toledo OH 43605-3399

Findlay

Country Hearth Inn (419) 423-4303
1020 Interstate Court, Findlay OH 45840

Cross Country Inn (419) 424-0466
1951 Broad Ave., Findlay OH 45840

Days Inn (419) 423-7171
1305 W. Main Cross St., Findlay OH 45840

Fairfield Inn (419) 424-9940
2000 Tiffin Ave., Findlay OH 45840

Hampton Inn (419) 422-5252
921 Interstate Dr., Findlay OH 45840

Knight's Inn (419) 424-1133
1901 Broad Ave., Findlay OH 45840

Ramada Inn (419) 423-8212
820 Trenton Ave., Findlay OH 45840
Super '8' Motel (419) 422-8863
1600 Fox St., Findlay OH 45840

RECREATION CENTER

For a charge of \$4/day any visitor may use the University Recreation Center. Information and tickets will be available at Registration. No black soled shoes are allowed. Outdoor jogging trails are also available.

GENERAL SCHEDULE

Friday, April 4, 1997

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|----------------|--|
| 1:30 PM | Registration in Olscamp Hall |
| 3:00 PM | The Ohio Academy of Science
Governing Council Meeting in
Olscamp Hall Room 104 |
| 2:00 - 5:00 PM | Ohio Biological Survey Execu-
tive Committee in Olscamp Hall
Room 106 |
| 6:00 PM | Joint OBS-OAS Dinner in
Olscamp Hall (reservations
by March 21) |

Saturday, April 5, 1997

- | | |
|--------------------|--|
| 7:30 AM | Special Environmental Sciences
breakfast (by invitation only;
must be pre-registered) in
Olscamp Hall. Hosted by
Metcalf & Eddy. |
| 8:00 AM - 3:00 PM | Registration in Olscamp Hall |
| 9:00 AM - 11:00 AM | Morning poster and podium
presentations and Internet workshop |

Internet Workshops (Saturday only)
Olscamp Hall Room 207

MUST BE PRE-REGISTERED. Limited to 24 registrants.

Arranged and conducted by Paul Mullins, Youngstown State University.

Awareness of the Internet continues to grow. Although most professionals now have a good notion of the Internet and have used it to some extent, there are two areas that still need tutorials: Beyond Surfing the Web and Creating a Web Site. At least one hour of each two hour session will be hands-on.

Beyond Surfing the Web 9:00-11:00 AM

We will use Netscape 2.02 to access information on the World Wide Web. Key features of this tutorial will be finding and validating the information you need and the use of protocols for news, gopher, telnet and FTP.

Creating a Web Site 2:00-4:00 PM

We will discuss some basic tools for creating a web site from existing information. Participants will be able to create a sample web site using HoTMetaL. (Bring a blank Macintosh disk as well as electronic copies of information that you might put on a web site.)

All Academy Lecture

11:15 AM Olscamp Hall

DR. DAVID B. BAKER

Director

Water Quality Laboratory

Heidelberg College, Tiffin OH 44883

Dr. Baker is director of the Water Quality Laboratory (WQL) and chairman of the Water Resources Program at Heidelberg College in Tiffin, Ohio. He received a B.S. degree from Heidelberg College and an M.S. and Ph.D. in Botany from the University of Michigan. After a one year National Science Foundation postdoctoral fellowship in Germany and two years at Rutgers University, he returned to Heidelberg in 1966.

Dr. Baker's interests in water quality grew out of a set of river laboratory exercises that he incorporated into introductory biology laboratories at Heidelberg in 1967. In 1969, he received a grant from the Federal Water Pollution Control Administration (the predecessor of the EPA) to study the water quality benefits in northwestern Ohio rivers of flow augmentation from upground reservoirs. The facilities and administrative structures set up for the grant launched the WQL as a research wing of the Heidelberg science departments.

One specialty of the WQL is measurement of pollutant transport in river systems during storm runoff events, using automatic sampling equipment. As efforts to restore Lake Erie were launched in the 1970's, the WQL's data on tributary phosphorus loading led to the identification of agricultural runoff as a major phosphorus source entering Lake Erie. Continuation of the tributary loading programs launched in the 1970's now provides Lake Erie's Ohio watersheds with the longest term and most detailed tributary loading records available in the United States. Initially the WQL's studies focused on nutrients and sediments, with current generation pesticides added in 1981, metals in 1994, and organic carbon in 1995. All analytical work is performed in the WQL's highly automated water analysis laboratories. Beginning in 1966, stations on the Scioto River and Great Miami River were added to its existing stations on the Maumee, Sandusky, Cuyahoga, Grand and Muskingum rivers.

To help develop local ground water quality data bases, the WQL initiated a Cooperative Private Well Testing Program in 1987. Working with county organizations in midwestern states, the WQL has tested nitrate contamination in more than 47,000 private rural wells and for atrazine contamination in about 14,000 wells. It has prepared state atlases of nitrate contamination for both Ohio and Indiana.

The WQL also operates an environmental extension program whereby it relates the results of its various research and monitoring programs to the general public. Dr. Baker has averaged more than 25 presentations a year for the past six years. Recently, he has focused many of his presentations on assessment of the risks associated with the occurrence of herbicides in drinking water supplies. He serves as a non-point source pollution specialist for the Ohio Sea Grant Program.

Dr. Baker also serves as chairman of the Water Resources Program at Heidelberg. The college has initiated an interdisciplinary undergraduate water resources major. An integral aspect of the major is undergraduate research participation, both within course work and as independent study. Much of the undergraduate research will be organized as components of a long-term, comprehensive study of the hydrology, chemistry, biology and geology of the Sandusky River Watershed. The college has received a curriculum development grant from the Ohio Environmental Education Fund to support development of the program and an equipment grant from the McGregor Fund.

12:00 noon	Lunch available on your own at several campus locations. Preregistration not necessary.
1:30 PM	Division Business Sessions (See abstracts for locations.)
2:00 PM - 5:00 PM	Afternoon poster and podium presentations and Internet workshop (See description on page 3)
5:30 PM	OFFICIAL NOTICE of Annual Business Meeting for Academy Members Only Olscamp Hall Room 123
6:00 PM	Reception and Banquet Olscamp Hall

President's Address

Measuring the Environment

Jim L. Jackson, Associate Professor Emeritus of Geology, The University of Akron, has been a member of The Ohio Academy of Science for 28 years, a Fellow since 1985, and directed OAS Annual Geology Field Trips in 1971 and 1988. Jackson earned a B.S. from Kent State University in 1970. He taught science and math in the Kent City Schools 1959-66; taught geology at The University of Akron 1967-1993; was Director, Center for Environmental Studies, 1974-1993; President of the Northern Ohio Geological Society 1974-75; 1983-84; and the Ohio Alliance for the Environment 1991-92. He was a member of the original Ohio Hazardous Waste Facility Board from 1980 to 1984. He was awarded grants, has authored reports, research papers and most recently laboratory simulations (CD-ROM Windows), Falcon Software, Inc. In 1987 he was honored by The Ohio Alliance for the Environment with the Environmental Education Award. The University of Akron Alumni Association presented him with the Outstanding Teacher Award for 1992-93.

Sunday, April 6, 1997

Plant Sciences Field Trip:

Goll Woods: A Remnant of Ohio's Black Swamp Forest

8:30 AM (Eastern Daylight Savings Time)

Arranged by: ALLISON W. CUSICK, Chief Botanist, Division of Natural Areas and Preserves, Ohio Department of Natural Resources

Goll Woods State Nature preserve is the least-disturbed extant remnant of Ohio's "Black Swamp". This oak-ash-maple forest once covered a vast area of the post-glacial Lake Plain of northwestern Ohio. Goll Woods is especially notable for its mature bur, chinquapin, red and white oaks and for its diversity of woody and herbaceous species. A fine beech-maple association also grows on the more mesic portion of the preserve. Transportation will be in private vehicles leaving the parking lot H at the north end of the Life Sciences Building at 8:30 AM, returning by 4:00 PM. Travel time is approximately two hours roundtrip from Bowling Green. Carpooling is encouraged. Maps will be provided. No collecting will be permitted. Attendance is limited to the first 30 registered participants. For more information and to reserve space please call 614-265-6471.

Geology Field Trip

Wetlands, Pleistocene Geology and Middle Paleozoic Stratigraphy of Western Wood and Southwestern Lucas Counties, Ohio.

8:30 AM (Eastern Daylight Savings Time)

Arranged by: JANE L. FORSYTH, Bowling Green State University and MARK J. CAMP, University of Toledo

Transportation will be by private vehicles leaving from the western part of the parking lot R just north of the Oak Grove Cemetery. A picnic lunch will be available at Quarry Pond Farm at nominal cost.

The trip will focus on Silurian and Devonian bedrock stratigraphy, structure, paleontology, and resource utilization and on environmental problems of the glacial lake plains and Maumee and Portage drainage basins stretching from North Baltimore to Whitehouse, Ohio. Our final stop will be at Blue Creek Wetlands and Quarry Pond Farm in Whitehouse, a wetlands outdoor laboratory where a number of environmental sampling, drilling, and testing techniques will be demonstrated.

Special Acknowledgments

The Ohio Academy of Science and Bowling Green State University express their appreciation to the following for partial financial support of this meeting:

GOJO Industries, Inc.

Marathon Special Products

Master Chemical Corporation

Metcalf & Eddy

Local Arrangements

Dr. Lee A. Meserve

Assisted by Joyce Kepke

Our Host:

ACADEMIC HIGHLIGHTS OF Bowling Green State University

Bowling Green State University's continued success lies in offering its students the educational opportunities, diversity and excitement of a large university, while maintaining the personality, camaraderie and caring of a small college.

This success also is fueled in large part by Bowling Green's commitment to teaching and research that has attracted top faculty scholars and graduate students. They, in turn, have put the University on the cutting edge in the discovery of exciting new knowledge.

All this is being accomplished in a collegiate setting that stresses a strong sense of community and people working together to achieve the University's goals.

Bowling Green has nearly 875 full-time and part-time faculty and 17,000 students on its campus. Degree programs are offered through the colleges of Arts and Sciences, Business Administration, Education and Allied Professions, Health and Human Services, Musical Arts, Technology and the Graduate College. Within the undergraduate colleges are schools of Art, Mass Communication, Nursing and Health, Physical Education and Recreation.

In all, the University offers more than 165 undergraduate degree programs, 13 master's degrees in 60 fields of study and doctoral degrees in 14 departments with nearly 80 specializations.

In addition to courses on the main campus, the University's Firelands College, located in Huron, Ohio, offers 21 associate degree programs, as well as courses which fulfill the first two years of bachelor's degree requirements. Firelands enrollment tops 1,400 students.

Bowling Green is fully accredited at the highest state, regional and national levels and its faculty, more than 90 percent of whom have the highest degree in their field, include Fulbright Scholars, authors and nationally known researchers. The caliber of the faculty is reflected, too, in the number of academic programs which are regionally and nationally recognized, such as the industrial psychology program, considered one of the country's finest. Also, faculty have been elected to high ranking positions in various national and regional professional organizations.

Three academic departments—chemistry, philosophy and psychology—are home to Ohio Eminent Scholars. The scholar program was created by the Ohio Board of Regents to attract world-class educators and researchers to the state's universities. Only two other Ohio universities—Ohio State and Cincinnati—have more of these prestigious positions than BGSU.

While committed to teaching, faculty and researchers as well, generating new knowledge through independent research and involvement in University units such as the Center for Photochemical Sciences, the Population and Society Research

Photochemical Sciences, the Population and Society Research Center, the Mid American Center for Contemporary Music, the Center for Governmental Research and Public Service, the Center for Canadian Studies, the Center for the Study of Popular Culture, and the Social Philosophy and Policy Center.

Bowling Green is also the site of the National Drosophila Species Resource Center and the Mid America Stock Center—the largest scientific facilities of their kind in the world—where University faculty assist in supplying some 400 species of fruit flies to scientists involved in genetics and cancer research around the globe.

The University's students come from throughout the United States and more than 80 foreign nations. While most students are between the ages of 18-22, the number of those older than 25 is increasing. Last year, nearly 5,000 "non-traditional" students enrolled in undergraduate and graduate programs on a full- or part-time basis.

The University is also making great strides towards accomplishing its goal of making computers a vital part of each student's education. There are currently 19 computer labs, including at least one in each residence hall complex. In addition, several departments have created computer labs for their students. The Board of Trustees has committed additional funds towards updating equipment in labs, classrooms and offices as well as the continued networking of labs and academic buildings.

The focal point of the 1,338-acre campus is the nine-story Jerome Library, with its collection of more than four million items, including 1.8 million volumes plus journals, periodicals, microforms, government documents and other materials. Special sections include the Center for Archival Collections, which houses materials relevant to northwest Ohio history, and the Sound Recordings Archives which has more than one million recordings. The Institute for Great Lakes Research, located in Perrysburg, contains an extensive collection of materials on the shipping industry's past and present.

The University is continually improving its more than 100 existing buildings and upgrading facilities to meet current needs. Both Kreischer and Harshman Quadrangles, which each house 1,300 students, are undergoing \$17 million in renovations. Work on Kreischer was completed this fall and Harshman is expected to be ready by the fall of 1997.

Also under construction is a \$5 million building that will house the English department and American culture studies program as well provide general use classrooms and computer labs.

In recent years, Eppler Center, which houses the School of Health, Physical Education and Recreation, underwent a \$9.5 million renovation; Founders Quadrangle was completely remodeled at a cost of \$15 million, creating one of the finest and most modern residence halls in the state, and a \$9.8 million addition to the Fine Arts Building was completed.

Also, a \$13.5 million classroom building, Paul Olscamp Hall, was opened and dedicated. The new building features state-of-the-art telecommunications capabilities which offer unlimited possibilities for classroom instruction.

As always, there are a number of continuing projects to improve and upgrade the University's infrastructure. In the past dozen years, more than \$174 million has been allocated for new construction and remodeling projects.

PLANNING FORM

8:00 A.M. REGISTRATION

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